

FLUORESCENT LIGHT TUBES AND HIGH INTENSITY DISCHARGE (HID) LAMPS

(Does not include halogen lamps)

HAZARDS & RULES

Base Materials - Hazards & Impacts

Fluorescent light tubes and HID lamps contain small amounts of mercury, lead, and sometimes cadmium. Mercury may be ingested (this usually occurs when putting hands or other objects contaminated with white phosphor dust into the mouth) or inhaled, potentially resulting in damage to the central nervous system, kidneys and liver. Lead can also enter the body by ingestion or by inhaling lead dust. The effects of lead on the adult body include the following: problems with reproduction, digestion, and with memory and concentration; high blood pressure; nerve disorders; and muscle and joint pain. Both mercury and lead are even more dangerous to children because their bodies are more sensitive to these metals and because their bodies absorb more lead than do adults' bodies.

Additives and Contaminants - Hazards & Impacts

There are no additives or contaminants associated with used tubes or lamps.

Regulatory Overview

Historically, fluorescent tubes and lamps contained a sufficient amount of mercury to make them a hazardous waste when disposed. Some new tubes and lamps are now marketed as containing a reduced amount of mercury, presumably making them a non hazardous waste when disposed. However, it remains the generator's responsibility to ensure the correct hazardous waste determination is made and to manage the waste accordingly. If you are considering purchasing a new type of tube/lamp that is marketed as a non hazardous waste when disposed, you should request the analytical test results for the product (i.e., toxic characteristic leachate procedure, otherwise referred to as TCLP) from the vender. Ask the vendor to explain the TCLP results to you, or contact CTAP for assistance.

If your used tubes/lamps are considered to be a hazardous waste, there are two management options for handling your waste tubes and lamps. You may either recycle or dispose of them under the Universal Waste Rule or dispose of them under the hazardous waste rules.

The Universal Waste Rule is a modification of the hazardous waste rules, and is designed to reduce regulatory requirements by promoting environmentally sound recycling and disposal practices. In addition to being easier for businesses to comply with, handling your used tubes and lamps under the Universal Waste Rule also reduces the environmental impact associated with disposal under the hazardous waste rules.

The second option is to manage your used tubes and lamps under the hazardous waste rules. See

sections 3.4 and 3.5 for more information on hazardous waste management requirements. Note that, for CESQGs, discarded tubes and lamps are not counted in determining your generator status provided the tubes are shipped off-site for recycling as a universal waste. If you throw the tubes and lamps in the trash, you must add their total weight to your monthly record for hazardous waste generation. Visit IDEM's web site to obtain a list of fluorescent tube recyclers.

MANAGEMENT RESPONSIBILITIES

Listed below are the regulations that you must follow depending upon how your shop manages its used tubes and lamps. Also listed are suggested practices that you should follow to ease your regulatory requirements and improve the environmental health of your shop.

You Must:

- regardless of whether you follow the universal waste rule or the solid and hazardous waste rules, you must:
 - educate your employees on proper handling and emergency procedures associated with the waste tubes/lamps.
 - contain all releases of waste and residues.
 - make a hazardous waste determination on your used tubes and lamps and manage them accordingly.
 - ensure that all light tubes and/or bulbs used for general illumination are installed at least seven feet from the floor or work surface, or, if installed lower than seven feet, ensure that the light tubes and/or bulbs are protected by a fixture or lampholder with a guard. [OSHA]
- if you manage your used tubes and lamps under the Universal Waste Rule, you must:
 - package both unbroken and broken tubes/lamps to prevent breakage and a release of contaminants.
 - label the tubes/lamps or the containers holding them with the words "Universal Waste-Lamps" or "Waste Lamps" or "Used Lamps" or other words that accurately identify the universal waste lamps may be used.
 - have your used tubes and lamps transported to a universal waste collection center. A list of fluorescent tube and high intensity discharge lamps recyclers is available via IDEM's web site. Note that under the Universal Waste Rule, you are not required to manifest your used tubes/lamps.
 - not accumulate and store used tubes/lamps for longer than a one year period.
 - not intentionally break or crush your lamps
- If you manage your used tubes and lamps as a hazardous waste, you must:
 - follow the hazardous waste rules (see Chapter 3.)

You Should:

- recycle your waste tubes and lamps under the Universal Waste Management rule.
- package your used tubes and lamps in their original boxes prior to transportation to avoid breakage. Broken glass and the residue within is a hazard to your employees, the transporter, and the recycling or disposal company's personnel.
- package your broken tubes and lamps separately in a sealed container.
- label the boxes with the number of tubes and lamps contained within.

www.in.gov/idem/ctap/mercury/recyclers.pdf